INCH-POUND

MIL-DTL-12883/11E
18 February 2003
SUPERSEDING
MIL-PRF-12883/11D
28 June 1996

DETAIL SPECIFICATION SHEET

SOCKETS AND ACCESSORIES FOR PLUG-IN ELECTRONIC COMPONENTS (ELECTRON TUBE, BOTTOM MOUNTING, SADDLE TYPE WITHOUT SHIELD BASE, 9 CONTACT, RADIAL)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and MIL-DTL-12883.

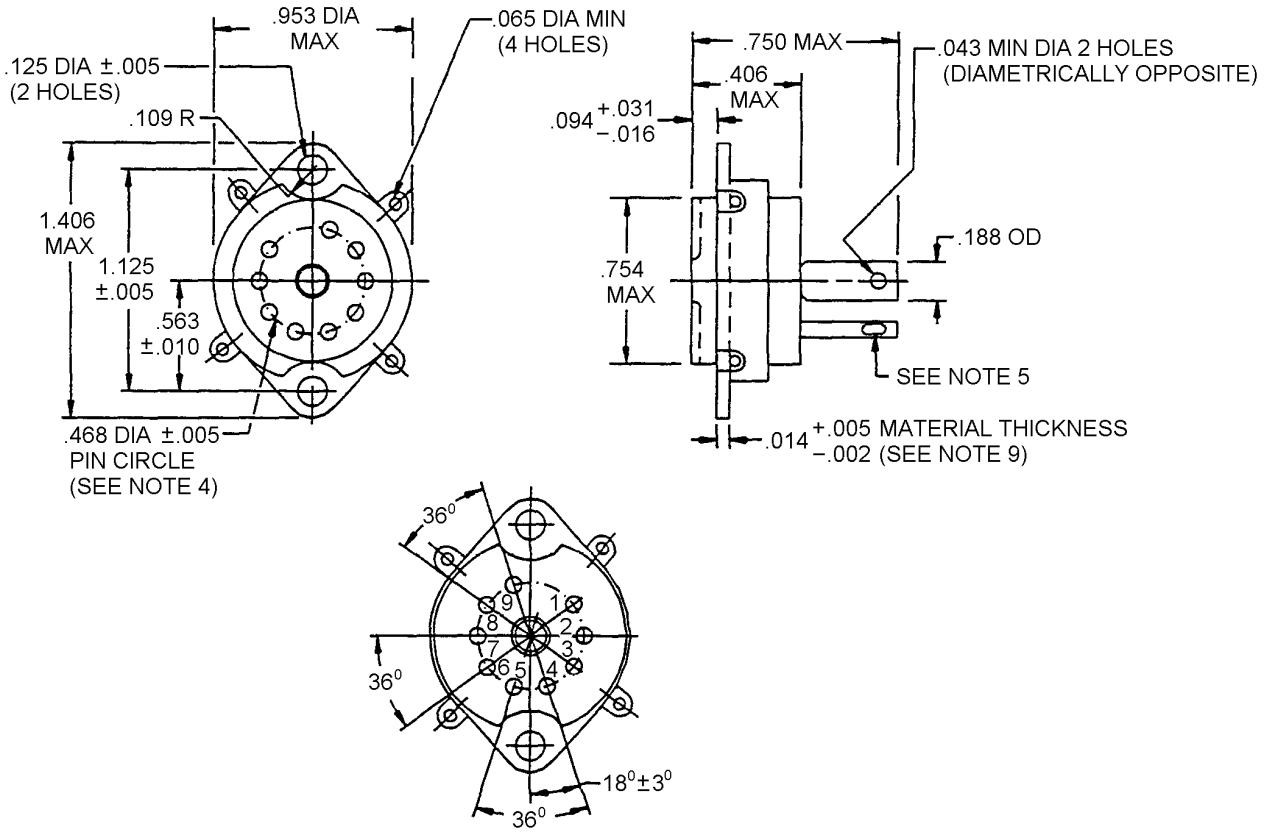


FIGURE 1. Socket configuration.

Inches	mm	Inches	mm	Inches	mm	Inches	mm
.002	0.05	.031	0.79	.125	3.18	.745	18.92
.005	0.13	.043	1.09	.188	4.78	.750	19.05
.010	0.25	.065	1.65	.406	10.31	.754	19.15
.014	0.36	.094	2.39	.468	11.89	.953	24.21
.016	0.41	.109	2.77	.563	14.30	1.125	28.58
						1.406	35.71

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±016 inch (0.41 mm) and ± ½º on angles.
4. Nine contact cavities equally spaced throughout 288º of arc, and each cavity located within ½º of true position, shall be established along the pin circle.
5. Each contact tab shall have either:
   a. 1 wire hole of .040 inch (1.02 mm) minimum width and .125 inch (3.18 mm) minimum length
   b. Two holes of .040 inch (1.02 mm) minimum width and .075 inch (1.91 mm) minimum length.

   The hole, or holes shall lie on the longitudinal centerline of the contact tab within ±.008 inch (0.20 mm).
6. The design of bosses and the shape of barrier, when use, are optional. When present, barriers shall have a maximum height of .062 inch (1.57 mm).
7. Clearance between the cavity wall and the contact, with the contact in any position, shall be no greater than .018 inch (0.46 mm).
8. Marking shall be at any convenient visible location.
9. Material thickness of mounting flange shall be measured in an area where burring or dishing of the mounting hole is not present.

FIGURE 1. Socket configuration – Continued.

REQUIREMENTS:

Dimensions and configurations: See figure 1 and table I.

Insulating material: Ceramic, Diallyl Ortho-Phthalate in accordance with ASTM PS 15 type, SDG-F, GDI-30F, or mineral-filled Phenolic resin in accordance with ASTM D5948 type MFE, see table I.

Contact cavities: One shape only; D-shaped or circular, at option of the manufacturer.

Float: With a pin of .041 inch (1.04 mm) diameter and .271 inch (6.88 mm) minimum length fully inserted in a socket contact, the contact shall be capable of free movement (float) within the contact cavity.

Saddle: The method of attaching the saddle to the insulator body, and the shape of the saddle where attachment is effected, are optional.

Electrical:

Insulation resistance: 1,000 megohms minimum. Test pin diameter: .040 ± .001 inch (1.02 ± .03 mm).

Dielectric withstanding voltage:

Sea level: Test voltage: 2,000 volts root mean square (ms). Test pin diameter .040 ± .001 inch (1.02 ± .03 mm).

High altitude: Test voltage: 660 volts ms. Test pin diameter: .040 ± .001 inch (1.02 ± .03 mm).

Contact resistance:

Average for all contacts: 0.015 ohm maximum.

Individual contacts: 0.03 ohm maximum.

Continuity test circuit: With the header test-gage(s) inserted into the socket(s) under test, the pins of the test-gage(s) and the contacts of the socket(s) under test, shall result in a series circuit. The header shall be the one used for electron tube 12AT7WC.

Mechanical:

Insertion and withdrawal force:

Initial insertion force: 20 pounds (89 newton) maximum.

Average insertion force: 15 pounds (67 newton) maximum.

Initial withdrawal force: 4 pounds (18 newton) minimum, 15 pounds (67 newton) maximum.

Vibration: The test gage shall be an approved electron-tube type 12AT7WC, in accordance with MIL-E-1/1097.

Durability: After the durability test, the withdrawal force shall be 2 pounds (8.90 newton) minimum.

Static load: 52 pounds (231 newton).

The part shall be designed to operate at the following conditions:

Environmental:

Operating temperature: See table I.

TABLE I. Dash number and characteristics.

Dash number	Operating temperature ºC	Insulating material	Old type designator 1/
-01	200	Ceramic	TS103C03 (2-way)
-02	100	SDG-F, GDI-30F	TS103P03 (1-way)
-03	200	MFE	TS103P03 (2-way)

1/ 1-way replacement: The new item (designated by military part number) will replace the old item (formerly designated by type designator); however, the old item will not replace the new item.
2-way replacement: The new items are interchangeable; i.e., the new item will replace the old item, and the old item will replace the new item.

Ratings (absolute maximum):

Voltage:
Sea level: 500 volts rms.
50,000 feet (15.24 km): 225 volts rms.

Current: 1 ampere.

Operating temperature: See table I.

Test gage details: See table II and MIL-DTL-12883 (see appendix).

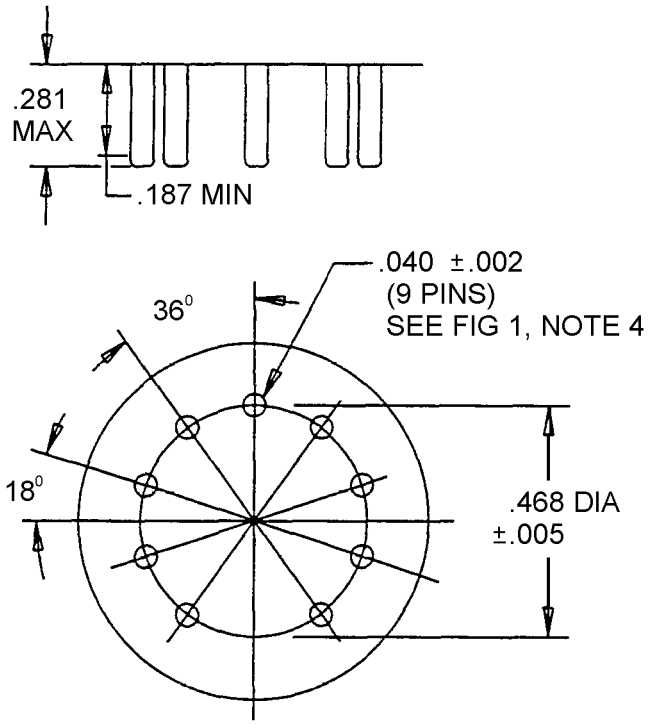
TABLE II. Test gage details. 1/ 2/

Inspection	A Pin length (mm)	B Pin dia (mm)	M Test-end dia (mm)	C Pin-circle dia (mm)	N Probe-end dia (mm)
Insertion and Withdrawal force	.276 ±.005 (7.01 ±0.13)	.0390 ±.0001 (0.991 ±0.003)	---	.4680 (11.887) basic	---
Contact resistance	.276 ±.005 (7.01 ±0.13)	.0390 ±.0001 (0.991 ±0.003)	---	.4680 (11.887) basic	---
Contact retention	.276 ±.005 (7.01 ±0.13)	---	.0390 ±.0001 (0.991 ±0.003)	---	.0410 ±.0001 (1.041 ±0.003)
Durability	.276 ±.005 (7.01 ±0.13)	.0410 ±.0001 (1.041 ±0.003)	---	.4680 (11.887) basic	---

Inspection	D Gage dia max (mm)	No. Of pins	Total weight of gage ounces (grams) (±5%)
Insertion and Withdrawal force	47/64 (18.65)	9	---
Contact resistance	47/64 (18.65)	9	---
Contact retention	---	---	3 (85.05)
Durability	47/64 (18.65)	9	---

1/ Dimensions are in Inches.
2/ Metric equivalents are given for general information only.

Mating-base dimensions: Sockets shall accommodate plug-in components having mating-base dimensions as shown on figure 2.



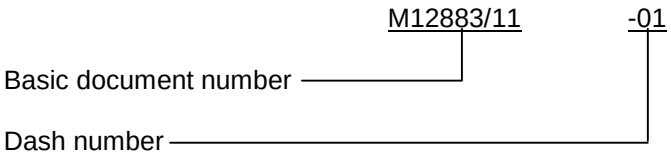
Inches	mm
.002	0.05
.005	0.13
.040	1.02
.187	4.75
.281	7.14
.468	11.89

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 2. Mating-base dimensions.

Part or Identifying Number (PIN): The PIN shall consist of the basic number of this specification sheet and the dash number from table I.

Example:



The Government PIN, specified in table III, supersedes the following commercial PINs.

TABLE III. Supersession and cross reference data.

Active Government PIN	Superseded PIN	
	CAGE 72825	CAGE 94117
M12883/11-01	9713-342-03	NA
M12883/11-02	NA	NA
M12883/11-03	NA	5978452P1

CONCLUDING MATERIAL

Custodians:
Army – CR
Navy – EC
Air Force – 11
DLA – CC

Review activities:
Navy – AS, CG, MC, OS, SH
Air Force – 70, 99

Preparing activity:
DLA – CC

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